Southeast Asian Fisheries Development Center **Aquaculture Department**

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What's in a tangab?

Aquaculture Department, Southeast Asian Fisheries Development Center

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What's in a tangab?

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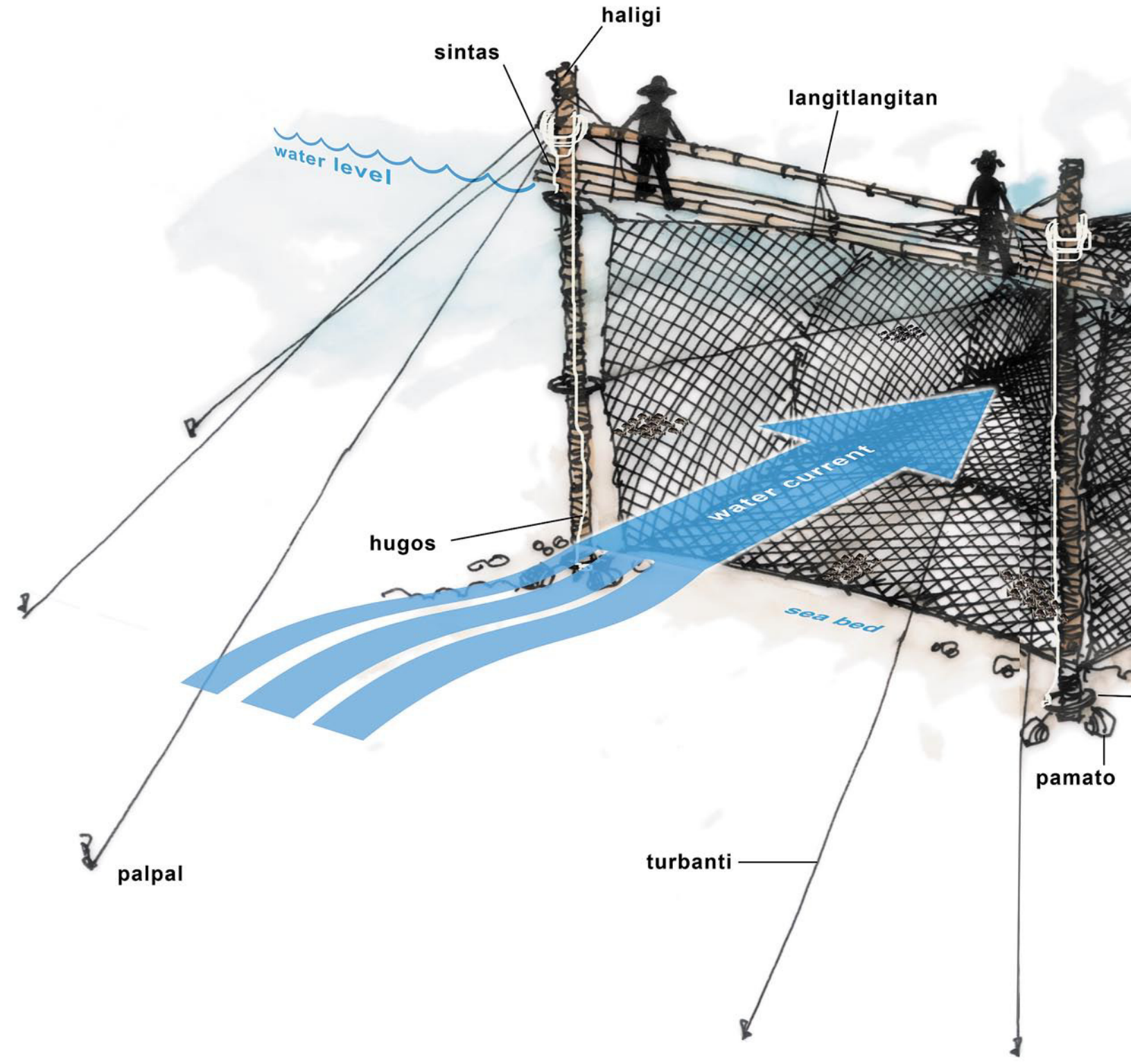
From the ongoing research project:

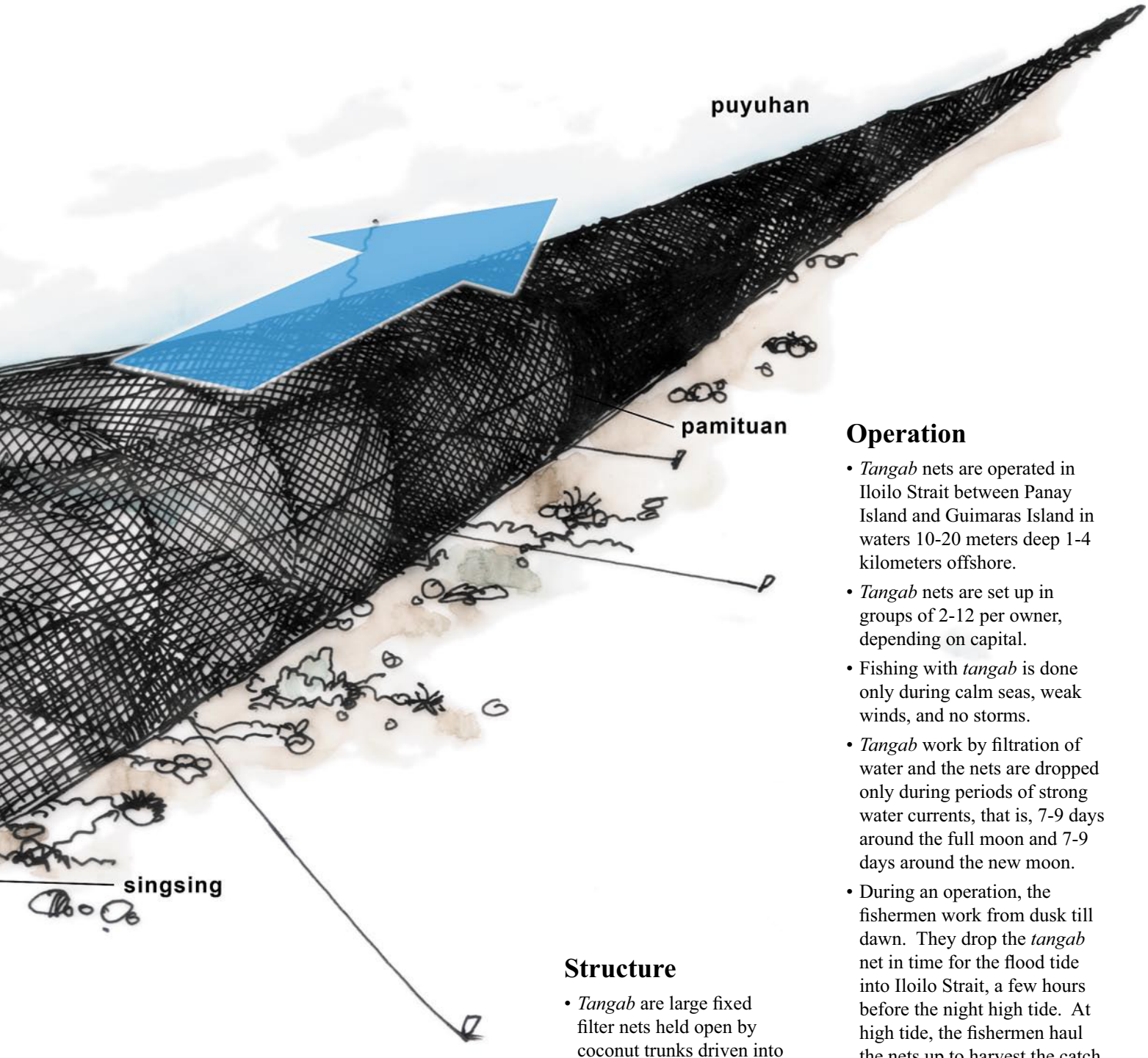
The *tangab* fishery in Iloilo Strait:
operations, catch volume and species composition,
economic importance, and ecological impact

Please visit the tangab exhibit at FishWorld.

This is a *tangab* or *palupad*



Tangab **drawn by Sid Tendencia**

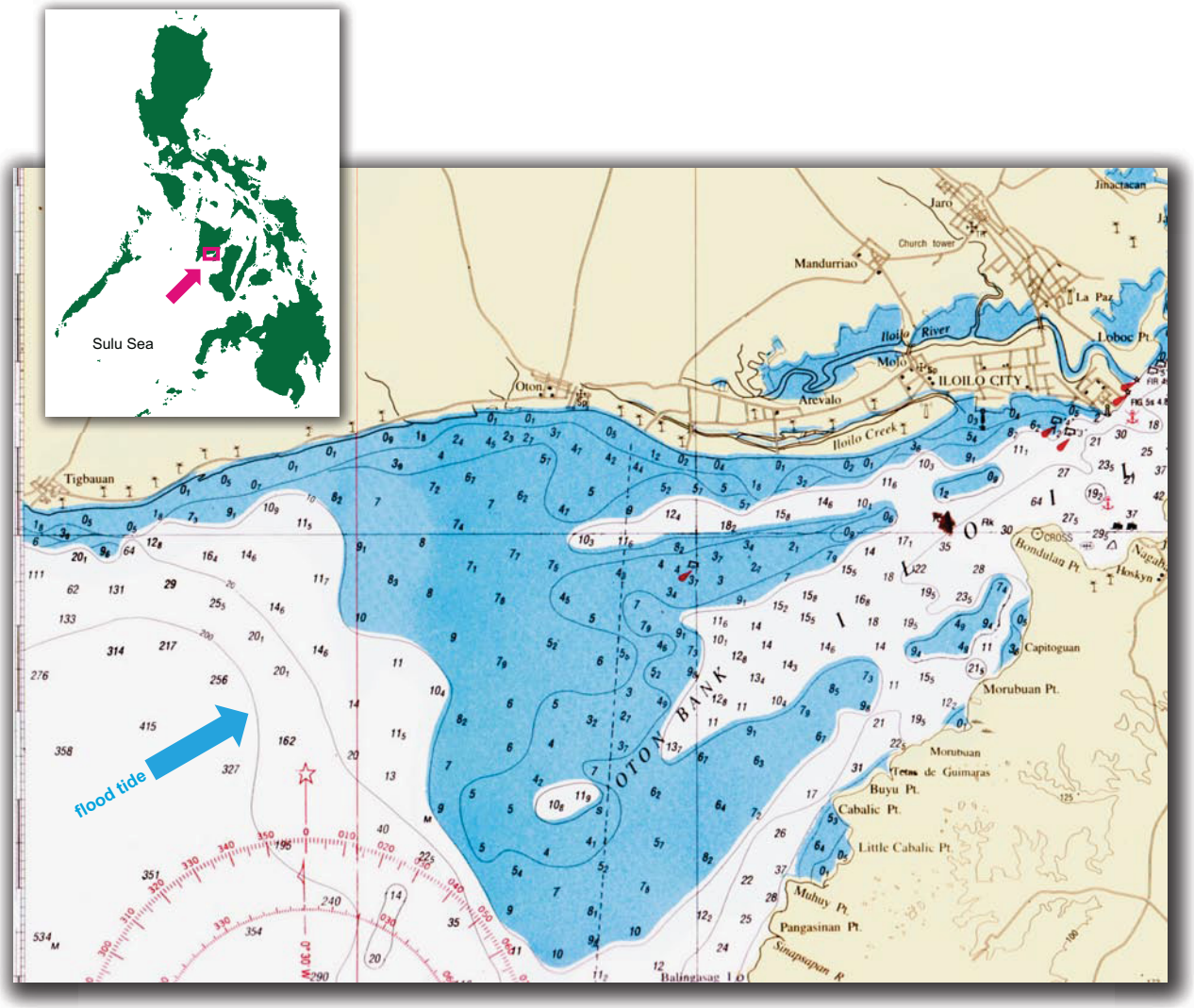


Structure

- *Tangab* are large fixed filter nets held open by coconut trunks driven into the sea bed.
- The opening is usually 10 meters wide and 10 meters deep.
- The net is 20-30 meters long to the cod end, with large mesh (10 cm) at the mouth, smaller meshes at the middle, and fine mesh (1-3 mm) at the cod end.

Operation

- *Tangab* nets are operated in Iloilo Strait between Panay Island and Guimaras Island in waters 10-20 meters deep 1-4 kilometers offshore.
- *Tangab* nets are set up in groups of 2-12 per owner, depending on capital.
- Fishing with *tangab* is done only during calm seas, weak winds, and no storms.
- *Tangab* work by filtration of water and the nets are dropped only during periods of strong water currents, that is, 7-9 days around the full moon and 7-9 days around the new moon.
- During an operation, the fishermen work from dusk till dawn. They drop the *tangab* net in time for the flood tide into Iloilo Strait, a few hours before the night high tide. At high tide, the fishermen haul the nets up to harvest the catch. Before the tidal current reverses direction, fishermen may reverse the nets and drop them again to catch fish during the ebb tide.
- The catch is brought to shore where many coastal residents are waiting to buy the good fish, or ask for some free ‘trash fish’.



Tangab fishery sites in Iloilo Strait

Tangab fishery sites	# *tangab* nets	# owners	Distance offshore (km)	Water depth (m)	Period operation	Good fish (% vol)	'Trash fish' (% vol)
Morobuan, Jordan, Guimaras	88	30	<1	15-18	Jan-Dec	50	50
Calumpang,Iloilo City	15	4	<1	10-18	Jan-Dec	5	95
Sto. Niño Sur, Arevalo, Iloilo City	19	8	1	12-17	Sep-Jun	5	95
Oton, Iloilo (landed in Atabayan, Tigbauan, Iloilo)	280	28	3-4	12-20	Nov-May	<3	97

What's in a *tangab*?

- *Tangab* nets filter huge volumes of water and catch everything carried by the currents – marine animals (no plants) from the sea surface to the sea bed.
- About 200 species of fishes, crustaceans, mollusks, and other invertebrates have been identified in the *tangab* catch at the four sites.
- Because of the small meshes 1-25 mm, *tangab* nets catch enormous numbers of small individuals – either larvae, juveniles, or small adults.
- These large amounts of small individuals end up as 'trash fish' that have very low market value (usually P1-5/kg), but of great socioeconomic value for the *tangab* fishing village.
- A smaller amount of the *tangab* catch is 'good fish' including various species of fish, shrimps, crabs, squids, cuttlefish, that are sold at P40-150/kg according to species.
- *Tangab* occasionally catch endangered marine animals such as whale sharks, dugongs, dolphins, and turtles.

What's the problem?

Removal by *tangab* of such large variety of species and enormous numbers of individuals leads to:

- loss of biodiversity
- disruption of food webs and population structures of the marine organisms in Iloilo Strait and Panay Gulf
- decline of marine fisheries

Dugong and whale shark caught by the tangab in Morobuan

Arevalo and Calumpang *tangab*

- *Tangab* catch some 'good fish' that are sold in the neighborhood.
- *Tangab* catch enormous amounts of 'trash fish' every day of operation.
- *Tangab* sometimes catch 'pure' or single-species anchovy larvae *(lobo-lobo)* or small shrimp *Acetes* spp. *(hipon)* that are sold at high prices up to P80/kg.
- Fresh 'trash fish' are picked by beach residents for edible species and sizes (free fish for breakfast and lunch!).
- Some 'trash fish' are sun-dried, the better kinds sorted for human consumption and the undesirable species used as 'fish meal' for livestock.
- Most 'trash fish' in Arevalo are sold to a Taiwanese who operates ponds for sea bass and groupers behind Tatoy's restaurant.
- *Tangab* sometimes catch whale sharks.

Morobuan *tangab*

- *Tangab* catch large amounts of high-value fishes, shrimps, mantis shrimps, and squids that are marketed in Iloilo City and Guimaras.
- *Tangab* catch about as much 'trash fish' as 'good fish'.
- *Tangab* also catch whale sharks and dugongs.
- Fresh 'trash fish' are picked by residents for edible species and sizes.
- Most 'trash fish' are sun-dried and sorted for human consumption and for livestock feed.

Oton *tangab*

- *Tangab* target the very small but very abundant shrimps *Acetes*, other sergestids, and euphausids for the *ginamos* and *tinabal* industry in Atabayan, Tigbauan.
- Usually 250 boxes of these small shrimps are landed after each night operation.
- All the catch is landed at two brokers ('commisionan') in Atabayan.
- *Tangab* catch relatively small amounts of 'good fish' and 'trash fish'.
- Fresh 'trash fish' are picked by residents for edible species and sizes.
- Some 'trash fish' are dried for human consumption and for livestock.

Arevalo locals and neighbors share in the *tangab* bounty






Catch of *tangab* in Arevalo, Iloilo City
















Processing the 'trash fish' from the *tangab* in Arevalo

Tangab owners, boatmen, and fishers in Santo Niño Sur, Arevalo















The *tangab* fishery in Calumpang

Catch of *tangab* in Calumpang, Iloilo City

The *tangab* fishery of Morobuan

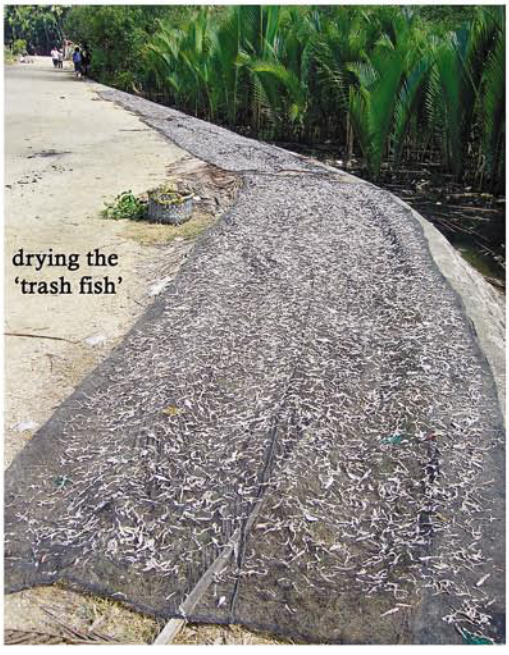

tangab nets after harvest


tangab nets during slack tide


meeting the *tangab* catch


crab traps *panggal*


skimming nets *sungkit* for shrimp


drying the 'trash fish'

Catch of the *tangab* in Morobuan, Guimaras

Harvesting the *tangab* catch in Oton


tangab nets all set (dropped in the water) at flood tide


tangab nets out of water after harvest and before next flood tide


setting out in the evening to drop the *tangab* nets at flood tide


preparing to drop the *tangab* nets


preparing to drop a *tangab* net


dropping the *tangab* net


on the boat overnight waiting for the *tangab* harvest


dropping the *tangab* net


preparing to harvest the *tangab*


the *tangab* harvest


the *tangab* harvest comes to shore


tangab owner


mending the *tangab* net


tangab maestro


Commissionan


fish drying racks outside *tinabal* and *ginamos* factory


a day's *tangab* catch


Atabayan fishing port and two Commissionans


brining tanks for *tinabal*


shrimp drying racks


shrimp in brining tank


drying fish meal for livestock


tinabal and *ginamos* ready for market

Processing the *tangab* catch in Atabayan


dried *hipon* or *kalkag*

http//: www. seafdec.org.ph

The Southeast Asian Fisheries Development Center (SEAFDEC)

SEAFDEC is a regional treaty organization established in 1967 in response to the global food crisis. The Member Countries are Brunei Darussalam, Cambodia, Indonesia, Japan, Lao People's Democratic Republic, Malaysia, Myanmar, the Philippines, Singapore, Thailand, and the Socialist Republic of Vietnam. The SEAFDEC Secretariat and the Secretary-General hold offices in Bangkok, Thailand.

SEAFDEC conducts research and development in appropriate technologies to increase fisheries and aquaculture production to sustainable levels. The mandate includes dissemination of scientific information and training of people to become entrepreneurs, technicians, managers, teachers, or researchers in fisheries and aquaculture.

SEAFDEC established four departments to focus research and development (R&D) in four main areas of concern:

- Training Department in Samut Prakan, Thailand for fishing technologies
- Marine Fisheries Research Department in Singapore for post-harvest technologies
- Aquaculture Department in Iloilo, Philippines for farming of aquatic organisms
- The Marine Fishery Resources Development and Management Department in Kuala Terengganu, Malaysia for the wise use of oceanic resources

Japan now contributes to SEAFDEC through a Trust Fund for identified priority R&D programs.

The SEAFDEC Aquaculture Department (AQD)

AQD was established in 1973 to conduct research, develop technologies, disseminate information, and train people in the farming of fishes, crustaceans, mollusks, and seaweeds for food, livelihood, equity, and sustainable development.

The Philippines, as host, provides AQD the physical facilities and the funds for operations and the salaries of researchers, scientists, and service personnel. The Philippine Technical and Administrative Committee for SEAFDEC is a special committee of the Office of the Secretary of the Department of Agriculture.

AQD works closely with various universities, fishery schools, and government agencies in the Philippines. AQD also has strong linkages with foreign research and academic institutions and international agencies.

FISHWORLD

A museum-aquarium-visitor center dedicated to science and environment education of the general public

The SEAFDEC Aquaculture Department operates FishWorld for the following purposes:

- To provide a venue for visitors to learn about SEAFDEC AQD's research, training, and technology transfer programs for responsible aquaculture
- To inform the general public about aquatic ecosystems and biodiversity, responsible aquaculture and fisheries, biodiversity conservation, environment protection, and sustainable development.
- To operate a museum of aquatic biodiversity and provide a taxonomic identification service
- To conduct aquatic biodiversity research and train students, teachers, and researchers in systematics
- To help strengthen science and environment education in schools and inspire students into careers in the aquatic sciences
- To build among citizens a deeper knowledge, understanding, and sense of stewardship towards the oceans, and the environment in general

Visitor Services

FishWorld receives about 10,000 visitors a year, mostly students from schools all over Panay and the neighboring islands. Indeed, FishWorld has become an Iloilo landmark in itself and many tourists now come to visit. The FishWorld tour includes a briefing or video about SEAFDEC and the Aquaculture Department, going around the visitor center and museum, and visiting the hatcheries. The visitor center has poster exhibits in aquaculture, fisheries, and biodiversity; and aquaria and ponds for close encounters with fishes, crustaceans, mollusks, and marine turtles. The museum has reference collections of marine animals, about 3,000 species of fishes, mollusks, crustaceans, and other invertebrates. The Dagat Isda Gallery has a growing collection of sea-inspired artwork and cultural artifacts. The SeaStore sells aquaculture publications and a variety of sea-inspired souvenirs.

FishWorld is open 8 am to 5 pm Monday to Friday.
Entrance fee: P20 per person, P10 for children under 12